

REMARKS

Reconsideration of the application is respectfully requested.

1. The Examiner has objected to the specification because of typographical errors. The errors have been corrected with the amendments filed herein.
2. The Examiner has objected to claim 9. Claim 9 has been amended to correct the informality identified by the Examiner.
3. The Examiner has rejected claims 1-12 as being clearly anticipated by Ghosh et al (US Patent No. 6,420,064 or the '064 Patent) under 35 USC 102(e)

As the Examiner has noted the '064 Patent and the present application have common inventors and a common assignee. Enclosed is the declaration of Zheng Tang (also known as Eric Tang) under 37 CFR 1.132 which establishes that any invention disclosed but not claimed in the reference was derived from the inventors of the present application.

4. The Examiner has rejected claims 1-12 as being anticipated by Ohara et al., JP '931, or EP'938.

Claim 1 has been amended to add the limitation that the anode of the present invention is equal to or less than about 10 microns thick. Support for the amendment to claim 1 is found in the specification, page 13, line 10 and again at page 14, line 5, as well as claim 20 as originally filed (now cancelled).

Each of the three prior art references above do not disclose, or teach towards, an anode having the claimed characteristics and being less than about 10 microns.

In the Ohara et al. reference, the fuel electrode described has a thickness of 30 microns – see column 12, lines 25-30.

In the JP '931 reference, it is clearly stated in the abstract that the resulting fuel electrode is at least 30 microns thick, which is the sum of the first fuel electrode layer (10-100 microns) and the second fuel electrode layer (20-100 microns).

In the EP '938 reference, the anode must be at least 50 microns thick. It is stated in the specification that the nickel slurry portion of the anode is applied as a coating in the range of 50 to 250 microns thick – see page 5, lines 39-40.

The prior art did not contemplate nor teach towards an anode having a thickness of about 10 microns or less. It was not generally believed that an anode of that thickness could have adequate conductivity because of the teachings of the percolation theory. The percolation theory generally provides that at low concentrations, insufficient conduction paths exist in a disordered system. Consider a square lattice, where each site within the lattice is occupied either by a conductor or an insulator, with equal probability. As the lattice becomes thinner in one dimension, it is increasingly unlikely that a conductive path will be formed in the plane perpendicular to the reduced dimension. Please find attached an excerpt from the online Encyclopedia "ISCID Encyclopedia of Science and Philosophy" found at www.iscid.org relating the percolation theory. As a result, it was unexpected that a fuel electrode less than about 10 microns thick would be adequately conductive.

5. Examiner has rejected claims 1 –12 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 7 and 19 of U.S. Patent No. 6,420,064 (the '064 Patent).

The '064 Patent and the present application are commonly owned. Enclosed is a terminal disclaimer in compliance with 37 CFR 1.321(c). Accordingly, it is submitted that the double patenting rejection is overcome.

CONCLUSION

In view of the foregoing remarks and amendments, it is respectfully submitted that this application is in condition for allowance and allowance thereof is respectfully requested.

Respectfully submitted,

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By:


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Attachments:

1. S.132 Declaration of Eric Tang;
2. Reference – www.iscid.com;
3. Terminal Disclaimer;
4. Statement Under 37 CFR 3.73(b);
5. Petition for One Month Extension; and
6. Credit Card Payment Form